

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A method, comprising:
receiving an I/O request to an object in storage;
defragmenting the object in storage so that blocks in storage including the object are contiguous in response to receiving the I/O request; and
executing the I/O request with respect to the object in storage.
2. (Original) The method of claim 1, wherein the I/O request is executed with respect to the object after defragmenting the object.
3. (Original) The method of claim 1, further comprising:
determining whether an amount of fragmentation of the object in the storage exceeds a fragmentation threshold in response to receiving the I/O request, wherein the object is defragmented if the amount of fragmentation exceeds the fragmentation threshold.
4. (Original) The method of claim 1, further comprising:
determining whether a user settable flag indicates to perform defragmentation in response to receiving the I/O request, wherein the object is defragmented if the flag indicates to perform defragmentation.
5. (Original) The method of claim 4, further comprising:
executing the I/O request without performing defragmentation if the flag does not indicate to perform defragmentation.
6. (Original) The method of claim 1, further comprising:
determining at least one logical partition including the object, wherein the object is defragmented if the object is within one logical partition.

7. (Original) The method of claim 1, further comprising:
determining whether the object is read-only, wherein the object is defragmented if the object is not read-only.
8. (Currently Amended) The method of claim 1, wherein the [[operation]] operations of receiving the I/O request, initiating the operation to defragment the object, and executing the I/O request of defragmenting the object in storage is performed by a storage controller managing I/O requests to the storage.
9. (Original) The method of claim 1, wherein the operation of defragmenting the object in storage is performed by a device driver for the storage providing an interface to the storage.
10. (Original) A system in communication with storage, comprising:
circuitry enabled to:
(i) receive an I/O request to an object in the storage;
(ii) defragment the object in storage so that blocks in storage including the object are contiguous in response to receiving the I/O request; and
(iii) execute the I/O request with respect to the object in storage.
11. (Original) The system of claim 10, wherein the I/O request is executed with respect to the object after defragmenting the object.
12. (Original) The system of claim 10, wherein the circuitry is further enabled to:
determine whether an amount of fragmentation of the object in the storage exceeds a fragmentation threshold in response to receiving the I/O request, wherein the object is defragmented if the amount of fragmentation exceeds the fragmentation threshold.
13. (Original) The system of claim 10, wherein the circuitry is further enabled to:
determine whether a user settable flag indicates to perform defragmentation in response

to receiving the I/O request, wherein the object is defragmented if the flag indicates to perform defragmentation.

14. (Original) The system of claim 13, wherein the circuitry is further enabled to:
execute the I/O request without performing defragmentation if the flag does not indicate to perform defragmentation.

15. (Original) The system of claim 10, wherein the circuitry is further enabled to:
determine at least one logical partition including the object, wherein the object is defragmented if the object is within one logical partition.

16. (Original) The system of claim 10, wherein the circuitry is further enabled to:
determine whether the object is read-only, wherein the object is defragmented if the object is not read-only.

17. (Currently Amended) The system of claim 10, wherein the circuitry is implemented in a storage controller managing I/O requests to the storage, wherein [[operation]] the operations of receiving the I/O request, initiating the operation to defragment the object, and executing the I/O request of defragmenting the object in storage is performed by the storage controller.

18. (Original) The system of claim 10, wherein the circuitry is implemented in a device driver interfacing between an operating system and the storage, and wherein the operation of defragmenting the object in storage is performed by the device driver.

19. (Original) A system, comprising:
storage;
a storage controller coupled to the storage, wherein the storage controller is enabled to:
(i) receive an I/O request to an object in the storage;
(ii) defragment the object in storage so that blocks in storage including the object are contiguous in response to receiving the I/O request; and

(iii) execute the I/O request with respect to the object in storage.

20. (Currently Amended) The system of claim 19, wherein the storage controller is further enabled to:

determine whether an amount of fragmentation of the object in the storage exceeds a fragmentation threshold in response to receiving the I/O request, wherein the object is defragmented if the amount of fragmentation exceeds the fragmentation threshold.

21. (Original) The system of claim 19, wherein the storage controller and storage device are included in a same housing.

22. (Original) The system of claim 19, further comprising:
a processor; and
a memory enabled to store the I/O request before the I/O request is received by the storage controller.

23. (Original) An article of manufacture in communication with storage, wherein the article of manufacture is enabled to:
receive an I/O request to an object in storage;
defragment the object in storage so that blocks in storage including the object are contiguous in response to receiving the I/O request; and
execute the I/O request with respect to the object in storage.

24. (Original) The article of manufacture of claim 23, wherein the I/O request is executed with respect to the object after defragmenting the object.

25. (Original) The article of manufacture of claim 23 further enabled to:
determine whether an amount of fragmentation of the object in the storage exceeds a fragmentation threshold in response to receiving the I/O request, wherein the object is defragmented if the amount of fragmentation exceeds the fragmentation threshold.

26. (Original) The article of manufacture of claim 23 further enabled to:
determine whether a user settable flag indicates to perform defragmentation in response to receiving the I/O request, wherein the object is defragmented if the flag indicates to perform defragmentation.

27.[.] (Currently Amended) The article of manufacture of claim 26 further enabled to:
execute the I/O request without performing defragmentation if the flag does not indicate to perform defragmentation.

28. (Original) The article of manufacture of claim 23 further enabled to:
determine at least one logical partition including the object, wherein the object is defragmented if the object is within one logical partition.

29. (Original) The article of manufacture of claim 23 further enabled to:
determine whether the object is read-only, wherein the object is defragmented if the object is not read-only.

30. (Original) The article of manufacture of claim 23 wherein the operation of defragmenting the object in storage is performed by a storage controller managing I/O requests to the storage.

31. (Currently Amended) The article of manufacture of claim [[23]], wherein the [[operation]] operations of receiving the I/O request, initiating the operation to defragment the object, and executing the I/O request of defragmenting the object in storage is performed by a device driver for the storage providing an interface to the storage.